

# New test promises personalised ovarian cancer treatment

Research funded by the Global Connections Fund and led by Adjunct Professor Els Meeusen from La Trobe University in Melbourne is close to finalising a simple test that looks at antibodies derived from tumours and identifies their tumour antigen targets.

“We’ve shown, for the first time, that each ovarian cancer patient has a unique and individual antibody profile,” said Professor Meeusen.

“The distinct characteristics of each patient’s immune response may well correlate with their clinical outcomes. If so, this will be a great help in developing personalised immunotherapy treatments.”

She added that the combination of antigens revealed by the blood test could also help in the diagnosis of particular cancer subtypes, again permitting a more tailored approach to treatment.

To conduct her research Professor Meeusen worked with oncologists from Tokai University School of Medicine, Japan, who generated the antibody samples. Initial testing was done in the LIMS laboratory at La Trobe. A second analysis was then done using a new microarray platform created by Dr Jessica Duarte at the Olivia Newton-John Cancer Research Institute (ONJCRI).

The combined results showed that the antigenic makeup of tumours was different in every patient.

“This finding supports other recent research showing that what we call ‘ovarian cancer’ is actually a group of different cancers with separate features,” she explained.

“We know that there are at least four cancer subtypes, and possibly more. Being able to identify the subtype has obvious implications for treatments.”

The next phase of research will involve analysing more blood samples sourced from Japan, with the aim of further defining ovarian cancer subtypes. To assist in this task, Professor Meeusen and Dr Duarte developed a custom focussed array, manufactured by CDI Laboratories in the United States, to screen these blood samples.

The COVID-19 pandemic has slowed the pace of the research, but Professor Meeusen expects the work to gather speed again in due course.

She is a co-founder of a start-up company, CancerProbe, which will aid in developing the technology further and taking it to market.



## Dr Jessica Duarte

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